



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

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JUN 12 2008

Ref: EPR-N

Selma Sierra, State Director  
Bureau of Land Management  
Utah State Office  
440 West 200 South, Suite 500  
Salt Lake City, Utah 84145-0155

Dear Ms. Sierra:

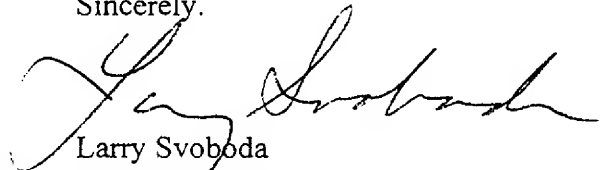
Thank you for taking the time to meet with me on June 6, 2008. I found our discussion useful in that it furthered my understanding of the current status of Utah projects. It was also productive to discuss ways of improving the working relationship between our respective agencies. I understand that both the Bureau of Land Management (BLM) and the U.S. Environmental Protection Agency are subject to enormous challenges as we face the continued development of energy resources in the inter-mountain west. I hope you understand that I am very interested in, and committed to, a strong partnership with the BLM as we work together to protect the environment as the nation's energy needs are being met.

As I mentioned last week, I have assigned a new staff lead for EPA to work on Utah BLM NEPA related activities. His name is Larry Kimmel and he can be reached at 303-312-6659. I encourage your staff to contact Larry for any reasons relating to NEPA and energy development within the State of Utah. Last year we initiated a meeting with Bill Strenger and several other federal, state and tribal stakeholders to discuss the status of energy development in Utah. We thought it was a great beginning and could lead to more effective collaboration among all of the key parties. However, nearly a year has passed and I would like to plan a similar meeting with you and your staff sometime in the near future. I would also like to follow up on the idea we discussed last week to schedule a meeting to focus on air quality-related issues in BLM NEPA documents. Perhaps we can schedule this meeting within the next few weeks with key participants, which we both agreed should also include the Utah State Division of Air Quality. It is also our intent to continue to utilize the Federal Leadership Forum to communicate our concerns and expectations as it relates to NEPA.

As a follow-up to part of our discussion, I reviewed EPA's involvement in the development of the West Tavaputs EIS. I have enclosed a series of e-mails from well over one year ago where our air quality specialists recommended a course of action which was apparently not incorporated by the BLM. In addition, although committed to in the email, there was no subsequent stakeholder group convened to resolve the issues or coordinate among the cooperators.. I look at this activity as one of the key breakdowns in the process. Perhaps by understanding the previous breakdowns in communications, we can avoid repeating them in the future. Please feel free to call me if you want to discuss this further

Again, I thank you for your time and look forward to working with you. Please call me anytime at 303-312-6004.

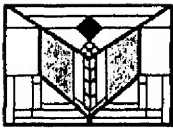
Sincerely.



Larry Svoboda  
Director, NEPA Program  
Ecosystems Protection and Remediation

Enclosures





Wes  
Wilson/EPR/R8/USEPA/US  
04/11/2007 01:09 PM

To Brad\_Higdon@blm.gov  
cc Joseph Delwiche/P2/R8/USEPA/US@EPA, Larry  
Svoboda/EPR/R8/USEPA/US@EPA,  
rsacco@co.carbon.ut.us, mhyde@co.duchesne.ut.us,  
bcc Robin Coursen/EPR/R8/USEPA/US@EPA  
Subject air modeling for the West Tavaputs EIS process

Brad Higdon, thanks for organizing the cooperating meeting/conf. call this morning.

See below a weblink to the work developed by Utah Div. of Air Quality which came out last September. This report to the Western States Regional Air Resource Council (WESTAR) was an effort to determine if the use of the EPA-developed grid-modeling procedure Community Multiscale Air Quality (CMAQ) model could be successfully used to assess ozone impacts in rural areas. (For information on this modeling protocol see: <http://epa.gov/nerl/research/2002/g1-3.html>.)

UDEQ AQD's conclusions were that the CMAQ model does perform well to establish rural ozone predictions since observed historical conditions tracked well with the modeled output. Most significantly, these modeling results also indicate there is an ozone concern within the Uinta Basin including the West Tavaputs area near Price. (See: <http://www.westar.org/Committees/TDocs/Ozone/CMAQ%20-%20rural%20ozone%209-20-06.ppt>.)

I'm also forwarding to you a recent email EPA staff sent this week to Stephanie Howard, BLM Vernal. Ms. Howard had asked EPA about the Vernal Field Office's Gasco EIS process and the air quality analysis for that upcoming EIS. This email comes from Joe Delwiche in our Air Program and in it he advises BLM Vernal to help form of a stakeholder group to address both the potential need to perform air dispersion modeling and this type of grid-based modeling for ozone for their EIS process. The same advise applies to the preparation of the West Tavaputs EIS by your office in Price.

We look forward to participating in the planned discussion with the other cooperating agencies on this subteam for air quality analysis for the West Tavaputs preliminary EIS report.

Also note that I sent a copy of this email to the your list of cooperating agency participants so they too would be aware of this new information.

Wes Wilson  
EPA Region 8  
303/312-6562

----- Forwarded by Wes Wilson/EPR/R8/USEPA/US on 04/11/2007 12:24 PM -----



Larry  
Svoboda/EPR/R8/USEPA/U  
S  
04/11/2007 10:24 AM

To Wes Wilson@EPA  
cc  
Subject Fw: Interesting CMAQ Ozone review

----- Forwarded by Larry Svoboda/EPR/R8/USEPA/US on 04/11/2007 10:24 AM -----



"Zapert, Jim"  
<JZapert@TRCSOLUTIONS  
.com>  
10/03/2006 01:49 PM

To john\_reber@nps.gov, Larry  
Svoboda/EPR/R8/USEPA/US@EPA  
cc  
FW: Interesting CMAQ Ozone review



Subject

As requested, here's the link for the rural ozone analysis that the UTDEQ performed with CMAQ.

-----Original Message-----

From: Scott\_Archer@blm.gov [mailto:Scott\_Archer@blm.gov]  
Sent: Wednesday, September 20, 2006 2:57 PM  
To: Craig\_Nicholls@blm.gov  
Cc: Susan\_Caplan@blm.gov  
Subject: Interesting CMAQ Ozone review

FYI -

Patrick Barickman (UTDEQ-AQD) prepared an interesting analysis of "The CMAQ

Visibility Model Applied to Rural Ozone in the Intermountain West"

go to: <http://www.westar.org/technical.htm> select CMAQ - rural ozone

Scott F. Archer  
Senior Air Resource Specialist  
USDI-Bureau of Land Management  
National Science and Technology Center  
Denver Federal Center, Building 50  
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Brad\_Higdon@blm.gov  
04/12/2007 03:44 PM

To Wes Wilson/EPR/R8/USEPA/US@EPA  
cc Don\_Stephens@blm.gov, dmartin@buysandassociates.com,  
jjemming@utah.gov  
bcc

Subject West Tav. EIS Subteam meeting on Air Quality

Wes

Thank you for providing the information on air quality modeling for the West Tavaputs Plateau Natural Gas Full Field Development Plan EIS process. We are currently trying to facilitate an Air Quality Subteam meeting for later this month as discussed yesterday.

In the meantime, I thought I would share with you that Price Field Office consulted with Scott Archer, BLM Senior Air Resources Specialist, and Craig Nicholls, BLM National Air Quality Modeler, on modeling needs for this EIS. In short, upon careful consideration, they did not believe a photochemical grid model such as CMAQ (or CAMx) would need to be run for ozone as part of this EIS process. Instead they provided direction on sufficient modeling needs to adequately evaluate air quality issues.

At this point in the process, BLM does have reservations about reconsidering modeling needs for this EIS, but we believe a coordination meeting among cooperators would be very beneficial. Could you please provide us suggestions as to what should be included on the agenda for this meeting?

Thanks,

Brad Higdon  
Environmental Coordinator  
BLM - Price Field Office  
435-636-3613



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SEP 23 2008

Ref: 8EPR-N

Selma Sierra, Utah State Director  
Utah State Office  
Bureau of Land Management  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

RE: Final Resource Management Plan and  
Environmental Impact Statement for the  
Vernal Field Office Planning Area  
CEQ# 20080316

Dear Ms. Sierra

Consistent with our responsibilities and authorities under the National Environmental Policy Act and Section 309 of the Clean Air Act (CAA), the Region 8 Office of the U.S. Environmental Protection Agency (EPA) has reviewed the Final Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Bureau of Land Management's (BLM) Vernal Field Office Planning Area. The BLM manages approximately 1.7 million acres of public lands in Daggett, Duchesne, and Uintah Counties and a portion of Grand County in northeastern Utah. This RMP will revise and replace the current RMPs for this area, known as the Book Cliffs and Diamond Mountain Area RMPs. BLM intends to implement Alternative A, which is designed to accommodate a wide variety of values and uses of these public lands.

Our comments on the Final RMP/EIS focuses on five issues: (1) the lack of information provided regarding air quality impacts from oil and gas development, (2) our recommendations to further reduce the environmental impacts resulting from motorized vehicle travel on public lands, (3) our recommendations for additional areas to be managed as Areas of Critical Environmental Concern, (4) our analysis of the effects of oil and gas development in the planning area on climate change, and (5) our analysis of BLM's ability to adapt to the impacts caused by climate change.

**1. Lack of information on air quality impacts from oil and gas development.**

For the Vernal RMP Final EIS, the BLM presented an estimate of total emissions and air impacts for selected pollutants for the oil and gas construction, drilling and production of approximately 6,300 natural gas wells. The air impact analysis was conducted using the ISCST3 and CALPUFF modeling systems for near and far field analysis, respectively.

EPA is concerned that the BLM did not conduct an analysis of impacts on ozone levels in the Vernal RMP/EIS. Ozone has become a pollutant of concern as the limited monitoring sites in the area have indicated that ozone concentrations are near the limits in the recently promulgated NAAQS. EPA is concerned that the air analysis intended to address the impacts of cumulative oil and gas development did not quantify emissions or predict air impacts from potential Reasonably Foreseeable Development (RFD) sources. Specifically, EPA is concerned that BLM did not consider proposed oil shale or tar sands projects as reasonably foreseeable activities. In the section of the Final EIS regarding "BLM Response to Comments for Air Quality" at page 65 (AQ-54), BLM has stated that the Uinta Basin Air Quality Study (UBAQS) is currently being conducted based on the cooperative agreement between BLM and the Independent Petroleum Association of the Mountain States. It is the intent that the UBAQS will model potential ozone impacts from oil and gas in the Uinta Basin, however this process does not include a potential RFD projects pursuant to BLM's NEPA obligation either.

In our February 2005 comments on the Draft EIS, EPA recommended that BLM provide cumulative air quality modeling for this Final RMP/EIS be included in the Final EIS. Ozone concentrations are likely to increase due to the emissions of volatile organic compounds and oxides of nitrogen from current oil and gas development. For example, the monitored data from Canyonlands National Park has shown an increasing trend upwards near EPA's new ozone NAAQS. The only other air quality monitoring station that could have provided more regionally-specific ambient air quality data was a monitoring station in Vernal, Utah. Unfortunately this monitoring station was shut down by the Utah Division of Air Quality in December 2007. As noted in letter to you dated June 6, 2008, from UDAQ (attached as Appendix O to the FEIS), Utah is also concerned that the available monitoring demonstrates gradual upward trend in ozone levels. UDEQ advised BLM in this correspondence to include NO<sub>x</sub> reduction mitigations as conditions of lease approval.

Oil and gas development is projected to occur at a relatively fast pace with a potential for up to 6300 oil, gas, and coal bed natural gas wells under the Preferred Alternative A. Because of EPA's noted concerns about the air quality analysis and the high concentrations of ozone in the planning area, it is difficult to determine accurately potential impacts from future development. Therefore, EPA recommends that the Record of Decision contain specific commitments similar to the Pinedale Anticline Record of Decision regarding assurance of attainment of the visibility and NAAQS while oil and gas development proceeds. These measures may need to include natural gas fired or electrically-powered drilling rigs, gas or electric turbines for compressors, reduction of the number of storage tanks containing VOCs, Tier 2 or better emission drilling rigs, centralized gathering facilities, or reduction of the pace of development.<sup>1</sup>

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<sup>1</sup> Record of Decision, Final Supplemental EIS for the Pinedale Anticline Oil and Gas Exploration and Development Project, BLM, Pinedale Field Office, September 12, 2008, page 28.



Comments from several industry sources alleged that BLM does not have any direct authority over air quality or air emissions under the Clean Air Act. In the Final EIS in the response to these comments, the BLM states it agrees it does not have direct authority over air quality or emissions originating on public lands under the Clean Air Act since the State of Utah has primacy for compliance with the CAA. The goal for Air Quality in the Final RMP states that BLM will: "Maintain existing air quality and air quality related values by ensuring that all authorized uses on public lands comply with and support Federal, State, and local laws and regulations for protecting air quality." It is important to acknowledge that BLM does have the authority to obtain reduced air emissions from actions it approves for third parties operating on public lands as stated in the following provisions: (1) the National Environmental Policy Act and CEQ regulations, (2) the Energy Policy Act of 2005, (3) the Onshore Oil and Gas Order Number 1, and (4) the Federal Land Policy and Management Act of 1976 in its implementing regulations. The BLM's role in fulfilling these obligations is especially critical given that BLM, through its land management decisions, is one of the main agencies affecting air quality and visibility in the intermountain west. We look forward to working with the Vernal Field Office in NEPA compliance for future oil and gas developments within this planning area in order to reduce and minimize both regulated criteria pollutants and other harmful air emissions.

## **2. Recommendations to further reduce environmental impacts resulting from motorized vehicle travel on public lands.**

The public lands managed by BLM in the Vernal area are nationally renowned for their recreational opportunities, particularly for uses that involve off-highway vehicles and all terrain vehicles not normally found on city streets. As these motorized recreational uses can have a cumulative destructive effect, some of the public lands in the Vernal planning area have been significantly adversely impacted. In response to this problem, BLM now proposes to restrict off-highway vehicle use by limiting recreational travel on public lands to designated routes. While EPA agrees that this is an important step in the right direction, EPA remains concerned that BLM will be unable to adequately control and mitigate ongoing and future impacts to cultural, riparian, and other valuable resources without changes to the proposed travel and recreational management prescriptions beyond those proposed under Preferred Alternative A. Preferred Alternative A would allow these vehicles to travel up to 300 feet beyond each side of the trail. EPA is concerned that this alternative will promote misuse by sanctioning off-road motorized uses through open desert terrain which is vulnerable to abuse due to the fragile soil conditions. Given the BLM's limited funding for enforcement, allowing off-road vehicles an option to progress 300 feet on either side of the trail could also result in additional adverse impacts, particularly affecting riparian areas and streams.

In similar circumstances, the U.S. Forest Service has determined that appropriate discretion must be provided to the local federal land agency officials to limit use of motor vehicles within a specified distance of designated routes only for specific purposes. Consequently, the Forest Service's rule includes a provision which allows the federal land manager to limit the use of motor vehicle use for the purposes of big game retrieval or dispersed camping. Further, it must be recognized that in general the Forest Service will have less difficulty in managing uses of off-highway vehicles on their public lands due to limited vehicular



access conditions in densely forested areas. EPA recommends that BLM consider adopting practices that would restrict off-highway vehicles through the Vernal planning area to certain limited uses, similar to the provisions of the Forest Service's 2005 Travel Management Rule found at 36 CFR 212.51(b).<sup>2</sup>

### **3. Recommendations for additional areas to be managed as Areas of Critical Environmental Concern.**

We reiterate our suggestion that specific critical areas be further protected by their designation as Areas of Critical Environmental Concern (ACEC) as noted in our Draft RMP/EIS comments. These areas include all of the following potential ACECs: Coyote Basin, Four Mile Wash, Lower Green River Expansion, and the White River potential ACECs. These were a component of the Draft EIS Preferred Alternative A or Alternative C, but have not been advanced in their entirety as ACECs in this proposed RMP presented in the Final EIS.

### **4. Analysis of the effects of oil and gas development in the planning area on climate change.**

In our comments on the Draft EIS, EPA suggested that emissions of greenhouse gas (CO<sub>2</sub> and methane) from oil and gas development be included in the Final EIS. While BLM acknowledged the basic body of scientific evidence about the increase in these gases in the atmosphere and their adverse potential effects, BLM responded it would not be able to conduct this type of assessment until the EPA provided the regulatory protocol or emission standards regarding climate change. NEPA requires federal agencies to take a hard look at potential environmental impacts associated with their proposed actions. Lack of regulatory protocol or emission standards for greenhouse gases does not preclude BLM from fulfilling this responsibility. Analysis of greenhouse gas emissions will still be needed for future NEPA compliance regarding the approval of oil and gas operations in the Vernal planning area.

Although the Draft RMP/EIS mentions carbon dioxide (CO<sub>2</sub>) as a greenhouse gas that would be emitted by wildfires in the planning area, the document does not address potential effects of the RMP on climate change in general. The Final RMP/EIS should have included information on these effects from fires as well as the effects from oil and gas development. Specifically, we restate our recommendation that the BLM encourage oil and gas lessees to participate in EPA's Natural Gas STAR program. Through this program ([www.epa.gov/gasstar](http://www.epa.gov/gasstar)), EPA works with companies who produce natural gas to install cost-effective technologies and practices to reduce emissions of methane, a potent greenhouse gas. We recommend that BLM consider implementation of EPA's developed best management practices and other technologies and practices pursuant to our Natural Gas Star program for when developing the Record of Decision for the Vernal RMP since many of these air emission controls that reduce methane, a significant greenhouse gas, will also increase the maximum economic recovery of federally-leased natural gas.

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<sup>2</sup> Department of Agriculture, Forest Service, "Travel Management; Designated Routes and Areas for Motor Vehicle Use"; Final Rule, November 2005, <http://www.fs.fed.us/recreation/programs/ohv/final.pdf>.

## **5. Analysis of BLM's ability to adapt to the impacts caused by climate change.**

Several comments received on the Draft EIS suggested that BLM assess how the BLM might adapt its land management plans to respond to the impacts of climate change. In the Final EIS, BLM acknowledges that the assessment of climate change is in its formative stage and thus it is not now possible for BLM to understand the impact on a regional or local scale, nor develop plans to adapt to a changing climate. We recommend that BLM work with other agencies that have recently developed predictive analysis for areas within or near the Vernal planning area. In particular, we invite the BLM to consider ways to reduce dust that may impact early on-set of snow melt within the Colorado River drainage and to continue its on-going role in removing water-consuming invasive plants. See, for example, the analysis provided by the National Research Council regarding responses to the lower stream flow potential on the Colorado River.<sup>3</sup>

EPA recognizes the complexity and diversity of the proposed resource management actions and supports BLM's intention to move forward to implement a new RMP plan based on emerging issues and changing circumstances. We expect that planning issues discussed in our comments will continue to be among those monitored as the plan is implemented. If you would like to discuss these comments, or any other issues related to our review of the Final RMP/EIS, please contact Weston Wilson at 303-312-6562. Thank you for the opportunity to comment.

Sincerely,



Larry Svoboda  
Director, NEPA Program  
Office of Ecosystems Protection and Remediation

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<sup>3</sup> Colorado River Basin Water Management: Evaluating and Adjusting to Hydroclimatic Variability, Committee on the Scientific Bases of Colorado River Basin Water Management, National Research Council, 2007, <http://www.onthecolorado.com/Resources/ClimateDocs/NAS2007.pdf>



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**JAN - 7 2011**

Ref: 8EPR-N

Juan Palma, State Director  
Bureau of Land Management  
Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

Re: Comments on the Gasco Uinta Basin  
Natural Gas Development Project Draft EIS  
CEQ # 20100386

Dear Mr. Palma:

The U.S. Environmental Protection Agency (EPA) Region 8 has reviewed the Gasco Energy, Inc. Uinta Basin Natural Gas Development Project (Gasco) Draft Environmental Impact Statement (EIS) prepared by the Bureau of Land Management (BLM). Gasco Energy, Inc. proposes to develop oil and natural gas in the Monument Butte-Red Wash and West Tavaputs Exploration and Development Areas in Uintah and Duchesne Counties, Utah. Our comments are provided for your consideration pursuant to our responsibilities and authorities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609.

At the outset, I want to acknowledge the recent efforts of BLM Utah in working to achieve improved environmental protection for air quality and water quality while managing fossil fuel resource development on federal lands. EPA supports BLM's initiative in development of a statewide air management strategy. BLM's Air Resource Management (ARM) Strategy would provide a regional photochemical model that could be used to streamline air quality analyses during the NEPA process for all BLM oil and gas projects in Utah and set a framework for defining appropriate mitigation levels across the state. BLM Utah also recently published IM No. UT 2010-055 - Protection of Ground Water Associated with Oil and Gas Leasing, Exploration and Development, an impressive step in enhancing BLM's existing process for the continued protection of all usable groundwater zones.

Based upon our discussions with BLM, it is clear to us that we share common concerns regarding protection of air quality and water quality in the Uinta Basin. Under our CAA Section 309 review responsibilities, however, our review and rating of the proposed action must be based upon information contained in the Draft EIS. We would like to work with you in addressing the concerns expressed in this letter, as you proceed with the NEPA process for the proposed project.



## PROJECT BACKGROUND

Five alternatives for development in the 206,826 acre Gasco project area are analyzed in the Draft EIS. Under Alternative A, the BLM Preferred Alternative, Gasco would drill 1,491 new natural gas production wells to depths of 5,000 to 20,000 feet. Wells would be drilled from individual well pads, with a maximum surface density of one well pad per 40 acres and at a rate of 100 wells per year. The Preferred Alternative includes construction of associated facilities such as access roads and pipelines, as well as construction of a water evaporation facility (WEF), consisting of 30 basins on 214 acres, to dispose of produced water. Other alternatives analyzed in the Draft EIS include: Alternative B, Reduced Development, with 1,114 new gas production wells developed in a phased manner and special exclusions for sensitive areas; Alternative C, Full Development, with 1,887 new gas production wells; Alternative D, No Action, under which 368 separately approved wells would be developed; and Alternative E, Directional Drilling, which has all the components of the Reduced Development Alternative, but wells would be directionally drilled from only 328 well pads. All alternatives include a WEF and other associated facilities in proportion to the number of wells and well pads.

## EPA ISSUES OF CONCERN

Based on EPA's review of the Draft EIS, we have identified four primary concerns with the project: air quality impacts; the characterization of and potential for impacts to groundwater resources; impacts to impaired surface waters; and the development and analysis of alternatives. More importantly, EPA has also identified inadequacies in the Draft EIS that hinder a complete assessment of potential environmental impacts.

### Air Quality

#### *Evaporation Pond VOC and HAP Emissions*

EPA is concerned that the emissions inventories used for all project-related modeling (near-field, far-field, and ozone) do not include volatile organic compound (VOC) emissions from the WEF. The produced water found in many gas operations can contain substantial levels of various VOCs, including those that when emitted are classified as hazardous air pollutants (HAPs). Given the large size of the proposed produced water disposal facility, there is potential for substantial emissions of VOCs from the evaporation ponds. The EIS should provide an estimate of the VOC content of the evaporation basins and an emissions inventory that indicates the level of VOCs emitted from the WEF, as well as disclose the potential impact on HAP and ozone concentrations in the project area.

#### *Near-field Modeling*

Modeling for the new one-hour near-field nitrogen dioxide (NO<sub>2</sub>) National Ambient Air Quality Standard (NAAQS) (finalized on April 12, 2010) was not included in the Draft EIS. The explanation presented in the Draft EIS that gas development would not impact one-hour NO<sub>2</sub> because of its temporary nature is not valid because this is a one-hour standard. The lack of one-

hour NO<sub>2</sub> modeling constitutes an inadequacy in the Draft EIS, particularly because modeling results are necessary to plan adequate mitigation to reduce any predicted adverse impacts. Moreover, as discussed above, near-field modeling conducted for the Draft EIS also does not include HAP emissions. An accurate prediction of potential HAP impacts from the proposed project is necessary to protect those living, working, or recreating in or near the project area. In particular, we note that the Pariette Wetlands (a popular recreational destination) and the community of Ouray are approximately five miles and ten miles, respectively, from the proposed WEF.

### *Ozone*

Measured ambient concentrations of ozone in the Uinta Basin during the period of January through March 2010 reached levels that are considerably above the NAAQS of 75 ppb for an eight-hour average, which was promulgated by EPA in 2008. EPA has proposed to lower the primary 8-hour ozone NAAQS to a level between 60 – 70 ppb and to establish a distinct cumulative, seasonal “secondary” standard; regardless of the outcome of this decision, it is clear that the measured values are a concern for public health. EPA appreciates that BLM acknowledged the measured wintertime ozone concentrations in Section 3.2.3 – Existing Air Quality. However, further information should be provided in the EIS to fully consider the potential impacts to wintertime ozone from the proposed action. Although current modeling capabilities do not allow for prediction of wintertime ozone concentrations, the wintertime ozone issues should be addressed qualitatively in light of the significant predicted project impacts with the knowledge gained from the modeling, monitoring and potential mitigation scenarios.

The project incremental increase with the Applicant Committed Environmental Protection Measures (ACEPMs) has been modeled at 1.3 ppb, which is considered a significant project-specific contribution given the recent ozone monitored exceedances in the Uinta Basin. We believe there are additional control strategies that could be utilized to effectively reduce NO<sub>x</sub> and VOC emissions, which may include selection of a produced water disposal alternative that avoids or reduces use of surface evaporation pits.

### Water Resources

#### *Groundwater*

Groundwater resources in the project area have not been adequately characterized in the Draft EIS to enable an assessment of the potential for impact to groundwater quality. All groundwater that has not been exempted through the aquifer exemption process and meets the definition of underground source of drinking water (USDW) at 40 C.F.R. § 144.3 is protected under the Safe Drinking Water Act. The brief description of the three principle aquifers in the project area indicates that there may be USDWs in the area of Gasco’s proposed development; in particular, the Draft EIS notes that the Uinta-Animas aquifer contains freshwater in some areas. However, very little information is provided in the document regarding the location or depth of USDWs. In order to accurately assess the potential impacts of the proposed project, the EIS must provide substantially more detail characterizing groundwater resources, including



delineating the depth of all USDWs in the project area, and providing the quality of these aquifers in terms of total dissolved solids for each specific zone. EPA considers surface impoundment of produced water from oil and gas development as a potentially significant risk to groundwater and surface water. Therefore, adequate groundwater characterization is of special concern for the area underlying the proposed site of the evaporation pond complex.

Although there are no Sole Source Aquifers or Utah Drinking Water Source Protection Zones underlying the project area that would be at risk from the activities proposed, EPA is concerned that there still may be potential to impact public or private water supplies. The EIS should provide available location and other information regarding Public Water Supply wells or springs or private (domestic or stock) water wells or springs in the project area. This includes Tribal wells and springs and should include the alluvium along the Green River.

EPA disagrees with the determination in the Draft EIS that impacts to groundwater need not be discussed because they are “effectively eliminated, reduced, or mitigated” (pg. 4-264). The potential for significant impacts to water resources exists during all project stages, including drilling, well pad construction, production, hydraulic fracturing, produced water disposal, and freshwater withdrawal. EPA does not believe that deferring a detailed groundwater evaluation to the site-specific well reviews provides a complete analysis of potential cumulative environmental impacts to the aquifers. Further, we believe that the potential for groundwater impacts from leaks or spills from the WEF should be addressed in the EIS.

EPA is pleased to see the discussion of “suggested” or “encouraged” mitigation measures which the approving officer could require at the time of Application for Permit to Drill (APD) approval (pg. 4-264) and the discussion of protective drilling practices (Sections 2.2.2.3 and 2.2.2.4). These measures, if fully implemented, would provide effective mitigation of, for example, potential migration of production fluids away from the production zone during well drilling, completion, and production. However, it is unclear to what extent such mitigation will occur. Mitigation measures to protect groundwater should be clearly described in the EIS and required in the Record of Decision (ROD). Monitoring is also critical to document impacts during oil and gas development. A complete monitoring plan and program to track surface water or groundwater impacts as drilling and production operations occur should be included in the EIS.

### *Surface Water Quality*

EPA considers impacts to surface water from runoff a substantial concern for the proposed project. Runoff of sediments, salts and selenium is the most substantial water quality concern in the Gasco project area as noted in the Draft EIS. Pariette Draw and Nine Mile Creek were listed on Utah’s most recent 303(d) list of impaired waters, finalized in 2006, and both would receive increased loading of sediments, salts and selenium from this proposed project. A Total Maximum Daily Load (TMDL) was approved by EPA for Pariette Draw on September 28, 2010 that specifically calculates the reductions in total dissolved solids, selenium, and boron in the watershed that are necessary in order for surface water standards to be met. Increased loading of sediments to Pariette Draw would occur under all alternatives, although the use of

directional drilling would reduce runoff through a reduced number a well-pads. In addition to well-pads, loading would result from the construction of the evaporative ponds, which appear to be located within the Pariette Draw watershed, and from new roads and pipelines. Since the proposed project was not captured in the TMDL, any increase in sediment loading to Pariette Draw would represent a load that exceeds the TMDL and would be an unacceptable impact to surface water quality. Our recommendations for monitoring and mitigation to detect and prevent unacceptable impacts are described in the enclosed detailed comments.

## Development and Analysis of Alternatives

### *Water Evaporation Facility*

Significant environmental impacts are likely to be associated with disposal of produced water in the proposed WEF. EPA's concerns include the impact of potential WEF leaks on water quality, potential impacts to migratory birds and other wildlife from contact with the evaporation basins, and air quality impacts from VOC emissions. These potential impacts were not addressed in detail in the Draft EIS.

Over the past several years, EPA and the BLM Vernal Office have actively worked together to increase the number of underground injection permits and reduce the number of evaporation ponds in the Uinta Basin. Nonetheless, all five alternatives analyzed in the Draft EIS include surface evaporation as the means of disposal of produced water. The Draft EIS considered, but did not fully analyze, subsurface water disposal. No other alternative water management method or combinations of methods were considered or analyzed in the Draft EIS. Based on our preliminary review of available data, there appear to be reasonably available alternate disposal methods, including subsurface injection or treatment and reuse/recycling, which should be fully analyzed in order to reduce the potentially significant environmental impacts of the WEF. The decision to avoid surface evaporation disposal may resolve many of EPA's concerns regarding potential impacts to air quality, water quality, and wildlife from on-site produced water surface impoundments.

Additional data are available to better assess the feasibility of underground injection, including logs and driller's reports for over 100 production wells previously drilled in the project area. EPA's preliminary review of data logs suggests to us that underground injection could be a viable option in several zones of the Green River formation as well as the deeper Sego and Castlegate formations. Cross sections of the subsurface geology in the project area should be provided in the EIS to support conclusions of the feasibility of underground injection. The EIS should also consider water treatment options that would allow for reuse or recycling of produced water, an environmentally beneficial disposal method. Treated water could be reused in drilling or production operations in the Gasco field or recycled for a variety of uses, including waterflood for enhanced oil recovery, in other nearby fields. Treatment could also potentially allow for surface discharge.



## *Directional Drilling*

BLM's Preferred Alternative proposes development of natural gas resources with each well drilled from an individual well pad; however, according to the analysis in the Draft EIS, implementation of directional drilling could reduce surface disturbance by approximately 60 percent if implemented as described in Alternative E and result in greatly reduced impacts to nearly all resources of concern. Minimizing surface disturbance is critical in the arid Uinta Basin, where reclamation is frequently difficult. Impacts of disturbed soils can include: erosion and sediment runoff impacts to surface water resources; impacts to local air quality from fugitive dust; dust impacts to vegetation and cultural resources (including the rock art of Nine-Mile Canyon); both direct and indirect impacts to the Uinta Basin Hookless Cactus, a federally listed threatened species; and long distance transport of fugitive dust out of the basin, which may contribute to dust on snow events in the mountains. The Draft EIS clearly indicates that resource impacts associated with surface disturbance are proportionate to the number of well pads. EPA therefore believes that directional drilling should be utilized to the maximum extent possible in the Uinta Basin project area. We recommend that BLM reconsider selection of Alternative E as the Preferred Alternative, or develop a new alternative that maximizes the valuable resource protection provided by directional drilling while maintaining reasonable cost and desirable development level.

## Cumulative Impacts

The Reasonably Foreseeable Development (RFD) scenario used in the cumulative impact assessment for Gasco appears to undercount planned and projected development in the Uinta Basin. The RFD scenario appears to be based on the Vernal Resource Management Plan (RMP), which was finalized in 2008. However, based on information provided for NEPA projects currently undergoing scoping or review for oil and gas projects on federal lands managed by the BLM, U.S. Forest Service, and Bureau of Indian Affairs (BIA), it appears that more than three times as many oil and gas wells are now anticipated in the basin than were considered during RMP development. The Greater Natural Buttes Draft EIS (released for comment by BLM July 16, 2010) included 21,293 wells in its RFD, significantly higher than the 6,400 quantified in the Gasco Draft EIS. The under-accounting of RFD may have caused significant underestimation of cumulative air quality impacts, as well as cumulative impacts to all other resources of concern.


## **EPA'S RATING**

The Draft EIS does not adequately analyze the project's potential impacts to air quality, particularly associated with VOC and HAP emissions from the produced water evaporation ponds. Moreover, inadequate characterization of groundwater resources results in an inability to determine whether adverse impacts to groundwater may occur as a result of the proposed action. EPA's review of the Draft EIS has also revealed significant environmental impacts from well-pad construction in the Pariette Draw watershed, which should be avoided, underscoring a need to fully consider the feasibility of directional drilling technology. In accordance with our policies and procedures for reviews under NEPA and CAA Section 309, EPA has rated this Draft EIS as "Inadequate" (3). As with all projects with potential unsatisfactory impacts or inadequate

assessment of such impacts, this proposal is a potential candidate for referral to the Council on Environmental Quality (CEQ). The "3" rating indicates EPA's belief that the Draft EIS does not meet the purposes of NEPA, and thus should be formally revised and made available for public comment in a supplemental or revised Draft EIS. A copy of EPA's rating criteria is enclosed. In addition, the enclosed detailed comments provide further discussion of our concerns regarding air quality and water resources, as well as our comments on climate change, potential impacts to environmental justice communities, tribal coordination, spill prevention, and impacts to wildlife and special status species.

Thank you for the opportunity to comment on this Draft EIS. We reaffirm our commitment to work cooperatively with BLM to address our significant concerns. If you have any questions on our rating or the comments provided in this letter, please contact Larry Svoboda, Region 8 NEPA Compliance and Review Program Director, at 303-312-6004, or Carol Campbell, Assistant Regional Administrator of Ecosystems Protection and Remediation, at 303-312-6340.

Sincerely,

  
James B. Martin  
Regional Administrator

Enclosures: Detailed Comments  
EPA's Rating System Criteria

cc: Daniel Picard, U&O Agency Superintendent, BIA  
The Honorable Richard Jenks Jr., Chairman, Ute Indian Tribe  
Bill Stringer, Green River District Manager, BLM





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

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**APR 11 2012**

Ref: 8EPR-N

Mike Stiewig, Field Office Manager  
Bureau of Land Management  
Vernal Field Office  
170 South 500 East  
Vernal, Utah 84078

Re: Gasco Energy Inc. Uinta Basin Natural Gas  
Development Project Final Environmental  
Impact Statement; CEQ # 20120065

Dear Mr. Stiewig:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Final Environmental Impact Statement (EIS) for the Gasco Energy Inc. Uinta Basin Natural Gas Development Project (Gasco Project), prepared by the Bureau of Land Management (BLM). Our comments are provided for your consideration pursuant to our responsibilities and authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609.

**Project Background and General Comments**

The Gasco Project Final EIS analyzes environmental impacts associated with a proposal by Gasco Energy Inc. (Operator) to develop oil and natural gas resources on the company's existing leases within the Monument Butte – Red Wash and West Tavaputs fields in the Uinta Basin, Utah. The Preferred Alternative selected by the BLM, Alternative F, allows development of 1,298 new gas production wells from 575 well pads as well as infrastructure and ancillary facilities to support natural gas production. Alternative F is a new alternative developed based on comments received on the Draft EIS. It incorporates portions of the original alternatives to reduce impacts compared to Alternative A, which was identified as the Preferred Alternative in the Draft EIS. The preferred Alternative F includes 193 fewer wells and almost 4,000 acres less disturbed land than the Preferred Alternative in the Draft EIS.

The EPA appreciated the opportunity to work closely with the BLM over the past year to address the substantial concerns that we raised based on our review of the Draft EIS, which included potential impacts to air quality and water resources and the need to generally reduce the environmental impacts of the Preferred Alternative. We believe the Final EIS represents a considerable improvement in the adequacy of the analysis of the project's potential impacts. While impacts certainly remain, the new



Preferred Alternative substantially reduces potential impacts to air quality and water resources. After reviewing the Final EIS, we present the remaining comments concerning development of the Preferred Alternative, air quality, protection of water resources, and environmental justice.

### **Development of the Preferred Alternative**

The EPA expects the new Preferred Alternative F to have fewer overall environmental impacts than those associated with Alternative A, which was identified as the Preferred Alternative in the Draft EIS. We are specifically encouraged by the BLM's efforts to: 1) reduce reliance on evaporation ponds through enhanced water management techniques; 2) reduce surface disturbance through the increased use of directional drilling; and, 3) reduce potential air quality impacts through the use of additional air quality mitigation measures.

1. Evaporation Ponds: During review of the Draft EIS, the EPA expressed serious concern over the extensive acreage for and use of evaporation ponds for disposal of produced water, including potential air quality impacts from volatile organic compound (VOC) emissions or the possibility of leaks impacting water quality. We support the BLM's decision to reduce the potential impacts from evaporation ponds by:
  - Limiting the amount of water that can be disposed of in the water evaporation facility;
  - Encouraging the Operator to pursue alternative water disposal methods including treatment for reuse in waterflood operations or subsurface injection;
  - Requiring treatment technology to control VOC emissions, including hazardous air pollutants (HAPS), using dissolved air flotation or an equally effective method resulting in an air pollution control efficiency of at least 60%; and
  - Including important water quality safeguards for potential leaks, such as lining and leak detection for the evaporation ponds and development of a Long-Term Monitoring Plan for water resources.
2. Well Locations: As the EPA recommended in our Draft EIS comments, the number of well pads in Alternative F has been reduced by over 60% compared to Alternative A through the use of increased directional drilling, thereby greatly reducing surface disturbance. Alternative F also includes important additional restrictions for environmental protection including no well pads located within 100-year floodplains and no surface disturbance permitted in riparian or wetland areas. The benefits of a more than 50% reduction in total surface disturbance as well as locating wells and facilities outside of these sensitive water resource areas include:
  - Anticipated reductions in particulate matter (PM) concentrations and visibility impacts;
  - Reduced erosion and sediment runoff impacts to surface water resources, including impaired surface waters; and
  - Generally lower dust transport within and outside of the project area, with benefits to a wide range of environmental resources.

EPA encourages any future efforts to further reduce surface disturbance and to do so in areas where any sensitive resources exist. EPA also wishes to stress the importance of ensuring that the Operator be required to fully adhere to the applicant committed best management practices (BMPs) and BLM mitigation requirements and that the BLM ensure the anticipated impacts remain mitigated through inspections and enforcement. We understand and support that, as part of the Preferred Alternative, these important environmental protection measures will be documented in the Record of Decision (ROD), developed into operating conditions during the site-specific permit (e.g. Application for Permit to Drill) approval process and subsequently enforced.

## **Air Quality**

The Final EIS provides improved disclosure of potential air quality impacts and enhanced mitigation to reduce potential adverse impacts. Notably, the BLM has performed additional analysis of emissions of hazardous air pollutants associated with the evaporation ponds and addressed impacts to the 1-hour standard for nitrogen dioxide. We commend the BLM and the Operator for the many additional applicant committed BMPs to reduce air quality impacts. These measures include:

- Green completions
- Phase in of Tier IV diesel drill rig engines, and
- Implementation of an inspection and maintenance program to reduce fugitive VOC emissions.

The Final EIS also includes an adaptive management strategy to further reduce ozone precursor emissions if necessary in the future. This is particularly important given data showing high winter-time ozone concentrations in the Uinta Basin, and the lack of modeling information to predict with confidence the level of control required to prevent adverse regional ozone impacts.

Given the need for improved ozone modeling information, the EPA supports the BLM's commitment as part of the adaptive management strategy to remodel project-specific ozone impacts within two years of signing the ROD. The EPA understands that the revised ozone modeling will incorporate and utilize substantial improvements including:

- Updated emissions inventory information, including the evaporation pond emissions;
- Additional ambient air quality monitoring data;
- Updated local meteorological data; and
- An improved modeling protocol vetted through Utah BLM's air quality technical workgroup.

This future modeling study is one of several triggers described in the adaptive management strategy that may determine a need for additional mitigation. We understand that the applicant committed BMPs and the adaptive management strategy for ozone impacts will be documented in the ROD, and we support the BLM's commitment to reevaluate the measures necessary to prevent adverse impacts to ozone in the Uinta Basin as additional information becomes available in the future.

## **Protection of Water Resources**

A thorough characterization of resources in the affected environment of a proposed project forms the foundation of an analysis of potential environmental impacts. The Final EIS for the Gasco Project contains an improved characterization of groundwater resources, including added discussion of local aquifers, identifying private wells located within the project area and providing baseline water quality to the extent available. The Final EIS also includes extensive additional information regarding impaired surface waters. Together, these additions to the Final EIS provide a better understanding of the character of water resources the potential impacts to water resources in the Gasco project area. In addition to the modifications to the Preferred Alternative described above, the Final EIS includes several additional BMPs for protection of water resources, such as:

- Use of a closed-loop drilling system in certain sensitive areas;
- Additional erosion and sedimentation controls for surface water protection, including measures from the Pariette Draw Total Maximum Daily Load (TMDL); and
- A requirement for the operator to conduct cement bond log surveys to verify cement adequacy and protect groundwater quality.

At a minimum, we urge the BLM to incorporate these measures (and others listed in section 4.15.2 of the Final EIS) as requirements for the selected alternative in the ROD.

Another key addition to the Final EIS is the Long-Term Monitoring Plan for Water Resources, which greatly improves the BLM's ability to detect and mitigate unanticipated impacts, thereby reducing potential impacts to groundwater and surface water. We strongly support the BLM for development of this plan, and offer our continued assistance for finalizing the monitoring network details.

## **Environmental Justice**

Given the proximity of low-income and minority communities to the proposed Gasco Project area, as well as the potential for serious air quality and water quality concerns associated with oil and gas development projects, environmental justice (EJ) issues are an important consideration for this NEPA Analysis. The Final EIS addresses this objective through the detailed discussion of potential disproportionate adverse impacts added to the Final EIS, including:

- Improved identification of potential EJ communities;
- The analysis of whether project impacts are likely to affect resources of concern beyond the project area into surrounding communities; and
- The resource-specific discussions provided for air quality, climate, cultural resources, land use and transportation, livestock, recreation, and socioeconomics, which the BLM concluded could have potential adverse impacts outside of the project area, including to EJ communities.

We are pleased to see that the BLM's enhanced analysis did not identify any adverse impacts that are likely to disproportionately impact EJ communities.



Thank you for the opportunity to review this Final EIS. We commend the BLM on the improved analysis and disclosure and the addition of vital environmental safeguards to the Gasco Project. If you have any questions or would like to discuss our comments, please contact me at (303) 312-6925. You may also contact Molly Vaughan, lead reviewer for this project, at (303) 312-6577 or by email at [vaughan.molly@epa.gov](mailto:vaughan.molly@epa.gov).

Sincerely,



Suzanne J. Bohan  
Director, NEPA Compliance and Review Program  
Office of Ecosystems Protection and Remediation

